[73 FR 2181, Jan. 14, 2008, 73 FR 8408, Feb. 13, 2008, as amended at 76 FR 47486, Aug. 5, 2011]

§ 563.8 Data format.

(a) The data elements listed in Tables I and II, as applicable, must be reported in accordance with the range, accuracy, and resolution specified in Table III

TABLE III—REPORTED DATA ELEMENT FORMAT

Data element	Minimum range	Accuracy [1]	Resolution
Lateral acceleration	At option of manufacturer	At option of manufacturer	At option of manufacturer.
Longitudinal acceleration	At option of manufacturer	At option of manufacturer	At option of manufacturer.
Normal Acceleration	At option of manufacturer	At option of manufacturer	At option of manufacturer.
Longitudinal delta-V	−100 km/h to + 100 km/h	±10%	1 km/h.
Lateral delta-V	−100 km/h to +100 km/h	±10%	1 km/h.
Maximum delta-V, longitudinal	−100 km/h to +100 km/h	±10%	1 km/h.
Maximum delta-V, lateral	−100 km/h to +100 km/h	±10%	1 km/h.
Time, maximum delta-V, longitudinal.	0–300 ms, or 0–End of Event Time plus 30 ms, whichever is shorter.	±3 ms	2.5 ms.
Time, maximum delta-V, lateral	0–300 ms, or 0—End of Event Time plus 30 ms, whichever is shorter.	±3 ms	2.5 ms.
Time, maximum delta-V, resultant.	0–300 ms, or 0—End of Event Time plus 30 ms, whichever is shorter.	±3 ms	2.5 ms.
Vehicle Roll Angle	−1080 deg to +1080 deg	±10%	10 deg.
Speed, vehicle indicated	0 km/h to 200 km/h	±1 km/h	1 km/h.
Engine throttle, percent full (accelerator pedal percent full).	0 to 100%	±5%	1%.
Engine rpm	0 to 10,000 rpm	±100 rpm	100 rpm.
Service brake	On or Off	N/A	On or Off.
ABS activity	On or Off	N/A	On or Off.
Stability control	On, Off, or Engaged	N/A	On, Off, or Engaged.
Steering input	±100%	±5%	1%.
Ignition cycle, crash	0 to 60,000	±1 cycle	1 cycle.
Ignition cycle, download	0 to 60,000	±1 cycle	1 cycle.
Safety belt status, driver	On or Off	N/A	On or Off.
Safety belt status, right front passenger.	On or Off	N/A	On or Off.
Frontal air bag warning lamp	On or Off	N/A	On or Off.
Frontal air bag suppression switch status, right front passenger.	On, Off, or Auto	N/A	On, Off, or Auto.
Frontal air bag deployment, time to deploy/first stage, driver.	0 to 250 ms	±2 ms	1 ms.
Frontal air bag deployment, time to deploy/first stage, right front passenger.	0 to 250 ms	±2 ms	1 ms.
Frontal air bag deployment, time to nth stage, driver.	0 to 250 ms	±2 ms	1 ms.
Frontal air bag deployment, time to nth stage, right front passenger.	0 to 250 ms	±2 ms	1 ms.
Frontal air bag deployment, nth stage disposal, driver.	Yes or No	N/A	Yes or No.
Frontal air bag deployment, nth stage disposal, right front passenger.	Yes or No	N/A	Yes or No.
Side air bag deployment, time to deploy, driver.	0 to 250 ms	±2 ms	1 ms.
Side air bag deployment, time to deploy, right front passenger.	0 to 250 ms	±2 ms	1 ms.
Side curtain/tube air bag deployment, time to deploy, driver side.	0 to 250 ms	±2 ms	1 ms.
Side curtain/tube air bag deployment, time to deploy, right side.	0 to 250 ms	±2 ms	1 ms.
Pretensioner deployment, time to fire, driver.	0 to 250 ms	±2 ms	1 ms.

TABLE III—REPORTED DATA ELEMENT FORMAT—Continued

Data element	Minimum range	Accuracy [1]	Resolution
Pretensioner deployment, time to fire, right front passenger.	0 to 250 ms	±2 ms	1 ms.
Seat track position switch, foremost, status, driver.	Yes or No	N/A	Yes or No.
Seat track position switch, foremost, status, right front passenger.	Yes or No	N/A	Yes or No.
Occupant size classification, driver.	5th percentile female or larger	N/A	Yes or No.
Occupant size classification, right front passenger.	Child	N/A	Yes or No.
Occupant position classification, driver.	Out of position	N/A	Yes or No.
Occupant position classification, right front passenger.	Out of position	N/A	Yes or No.
Multi-event, number of event	1 or 2	N/A	1 or 2.
Time from event 1 to 2	0 to 5.0 sec	0.1 sec	0.1 sec.
Complete file recorded	Yes or No	N/A	Yes or No.

[1] Accuracy requirement only applies within the range of the physical sensor. If measurements captured by a sensor exceed the design range of the sensor, the reported element must indicate when the measurement first exceeded the design range of the sensor.

(b) Acceleration Time-History data and format: the longitudinal, lateral, and normal acceleration time-history data, as applicable, must be filtered either during the recording phase or during the data downloading phase to include:

(1) The Time Step (TS) that is the inverse of the sampling frequency of the acceleration data and which has units of seconds;

(2) The number of the first point (NFP), which is an integer that when multiplied by the TS equals the time relative to time zero of the first acceleration data point;

(3) The number of the last point (NLP), which is an integer that when multiplied by the TS equals the time relative to time zero of the last acceleration data point; and

(4) NLP—NFP + 1 acceleration values sequentially beginning with the acceleration at time NFP * TS and continue sampling the acceleration at TS increments in time until the time NLP * TS is reached.

[73 FR 2183, Jan. 14, 2008, as amended at 76 FR 47488, Aug. 5, 2011]

EFFECTIVE DATE NOTE: At 77 FR 47556, Aug. 9, 2012, §563.8 was amended by revising Table III in paragraph (a), effective Oct. 9, 2012. At 77 FR 59566, Sept. 28, 2012, this table was amended in the ''Accuracy [1]'' column, in the twenty-fifth row, by correcting '' ±ms'' to read '' ±2ms'' For the convenience of the user, the revised text, as corrected, is set forth as follows:

§563.8 Data format.

(a) * * *

TABLE III—REPORTED DATA ELEMENT FORMAT

Data element	Minimum range	Accuracy [1]	Resolution
Lateral acceleration	At option of manufacturer	At option of manufacturer.	At option of manufacturer.
Longitudinal acceleration	At option of manufacturer	At option of manufacturer.	At option of manufacturer.
Normal Acceleration	At option of manufacturer	At option of manufacturer.	At option of manufacturer.
Longitudinal delta-V	−100 km/h to +100 km/h	± 10%	1 km/h.
Lateral delta-V	−100 km/h to +100 km/h	± 10%	1 km/h.
Maximum delta-V, longitudinal	−100 km/h to +100 km/h	± 10%	1 km/h.
Maximum delta-V, lateral	−100 km/h to +100 km/h	± 10%	1 km/h.
Time, maximum delta-V, longitudinal.	0–300 ms, or 0 − End of Event Time plus 30 ms, whichever is shorter.	± 3 ms	2.5 ms.

TABLE III—REPORTED DATA ELEMENT FORMAT—Continued

Data element	Minimum range	Accuracy [1]	Resolution
Time, maximum delta-V, lateral	0–300 ms, or 0 – End of Event Time plus 30 ms, whichever is shorter.	± 3 ms	2.5 ms.
Time, maximum delta-V, resultant.	0–300 ms, or 0 – End of Event Time plus 30 ms, whichever is shorter.	± 3 ms	2.5 ms.
Vehicle Roll Angle	– 1080 deg to +1080 deg	± 10%	10 deg.
Speed, vehicle indicated	0 km/h to 200 km/h	± 1 km/h	1 km/h.
Engine throttle, percent full (accelerator pedal percent full).	0 to 100%	± 5%	1%.
Engine rpm	0 to 10,000 rpm	± 100 rpm	100 rpm.
Service brake	On or Off	N/A	On or Off.
ABS activity	On or Off	N/A	On or Off.
Stability control	On, Off, or Engaged	N/A	On, Off, or Engaged.
Steering input	– 250 deg CW to + 250 deg CCW.	± 5%	± 1%.
Ignition cycle, crash	0 to 60,000	± 1 cycle	1 cycle.
Ignition cycle, download	0 to 60,000	± 1 cycle	1 cycle.
Safety belt status, driver	On or Off	N/A	On or Off.
Safety belt status, right front passenger.	On or Off	N/A	On or Off.
Frontal air bag warning lamp	On or Off	N/A	On or Off.
Frontal air bag suppression switch status, right front passenger.	On, Off, or Auto	N/A	On, Off, or Auto.
Frontal air bag deployment, time to deploy/first stage, driver.	0 to 250 ms	± 2 ms	1 ms.
Frontal air bag deployment, time to deploy/first stage, right front passenger.	0 to 250 ms	± 2 ms	1 ms.
Frontal air bag deployment, time to nth stage, driver.	0 to 250 ms	± 2 ms	1 ms.
Frontal air bag deployment, time to nth stage, right front passenger.	0 to 250 ms	± 2 ms	1 ms.
Frontal air bag deployment, nth stage disposal, driver.	Yes or No	N/A	Yes or No.
Frontal air bag deployment, nth stage disposal, right front passenger.	Yes or No	N/A	Yes or No.
Side air bag deployment, time to deploy, driver.	0 to 250 ms	± 2 ms	1 ms.
Side air bag deployment, time to deploy, right front passenger.	0 to 250 ms	± 2 ms	1 ms.
Side curtain/tube air bag deployment, time to deploy, driver side.	0 to 250 ms	± 2 ms	1 ms.
Side curtain/tube air bag deployment, time to deploy, right side.	0 to 250 ms	± 2 ms	1 ms.
Pretensioner deployment, time to fire, driver.	0 to 250 ms	± 2 ms	1 ms.
Pretensioner deployment, time to fire, right front passenger.	0 to 250 ms	± 2 ms	1 ms.
Seat track position switch, foremost, status, driver.	Yes or No	N/A	Yes or No.
Seat track position switch, foremost, status, right front passenger.	Yes or No	N/A	Yes or No.
Occupant size classification, driver.	5th percentile female or larger.	N/A	Yes or No.
Occupant size classification, right front passenger.	Child	N/A	Yes or No.
Occupant position classification, driver.	Out of position	N/A	Yes or No.
Occupant position classification, right front passenger.	Out of position	N/A	Yes or No.
Multi-event, number of event	1 or 2	N/A	1 or 2.
Time from event 1 to 2	0 to 5.0 sec	0.1 sec	0.1 sec.

TABLE III—REPORTED DATA ELEMENT FORMAT—Continued

Data element	Minimum range	Accuracy [1]	Resolution
Complete file recorded	Yes or No	N/A	Yes or No.

[1] Accuracy requirement only applies within the range of the physical sensor. For vehicles manufactured after September 1, 2014, if measurements captured by a sensor exceed the design range of the sensor, the reported element must indicate when the measurement first exceeded the design range of the sensor.

* * * * *

§ 563.9 Data capture.

The EDR must capture and record the data elements for events in accordance with the following conditions and circumstances:

(a) In a frontal air bag deployment crash, capture and record the current deployment data. In a side or side curtain/tube air bag deployment crash, where lateral delta-V is recorded by the EDR, capture and record the current deployment data. The memory for the air bag deployment event must be locked to prevent any future overwriting of the data.

(b) In an event that does not meet the criteria in §563.9(a), capture and record the current event data, up to two events, subject to the following conditions:

(1) If an EDR non-volatile memory buffer void of previous-event data is available, the current event data is recorded in the buffer.

(2) If an EDR non-volatile memory buffer void of previous-event data is not available, the manufacturer may choose to either overwrite any previous event data that does not deploy an air bag with the current event data, or to not record the current event data.

(3) EDR buffers containing previous frontal, side, or side curtain/tube air bag deployment-event data must not be overwritten by the current event data.

[76 FR 47489, Aug. 5, 2011]

§ 563.10 Crash test performance and survivability.

(a) Each vehicle subject to the requirements of S5, S14.5, S15, or S17 of 49 CFR 571.208, *Occupant crash protection*, must comply with the requirements in subpart (c) of this section when tested according to S8, S16, and S18 of 49 CFR 571.208.

(b) Each vehicle subject to the requirements of 49 CFR 571.214, *Side impact protection*, that meets a trigger threshold or has a frontal air bag deployment, must comply with the requirements of subpart (c) of this section when tested according to the conditions specified in 49 CFR 571.214 for a moving deformable barrier test.

(c) The data elements required by §563.7, except for the ''Engine throttle, percent full,'' ''engine RPM,'' and ''service brake, on/off,'' must be recorded in the format specified by §563.8, exist at the completion of the crash test, and be retrievable by the methodology specified by the vehicle manufacturer under §563.12 for not less than 10 days after the test, and the complete data recorded element must read ''yes'' after the test.

§ 563.11 Information in owner's manual.

(a) The owner's manual in each vehicle covered under this regulation must provide the following statement in English:

This vehicle is equipped with an event data recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating;
- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

These data can help provide a better understanding of the circumstances in which crashes and injuries occur. NOTE: EDR data are recorded by your vehicle only if a non-